

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

REVISED VERSION

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
20 November 2003 (20.11.2003)

PCT

(10) International Publication Number
WO 2003/095009 A1

(51) International Patent Classification⁷: **A61M 15/00**
(21) International Application Number:
PCT/FI2003/000367
(22) International Filing Date: 13 May 2003 (13.05.2003)
(25) Filing Language: Finnish
(26) Publication Language: English
(30) Priority Data:
20020909 14 May 2002 (14.05.2002) FI
(71) Applicant (for all designated States except US): **PERLOS
OYJ** [FI/FI]; Menotie 1, FIN-33471 Ylöjärvi (FI).
(72) Inventors; and
(75) Inventors/Applicants (for US only): **LAIHO, Juha**

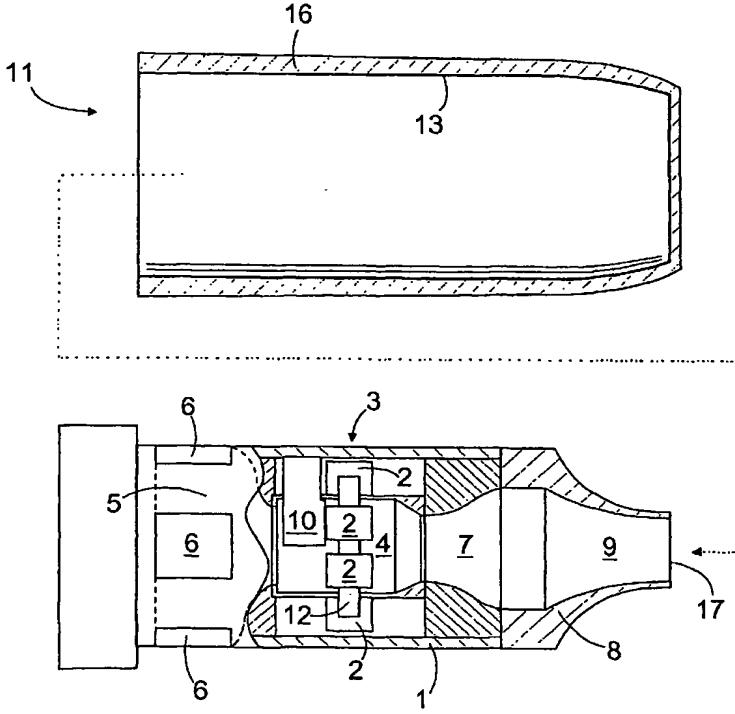
[FI/FI]; Tapulintie 16 as 2, FIN-36200 Kangasala (FI). **JUNKKARINEN, Vesa** [FI/FI]; Nahkurintie 12, FIN-81100 Kontiolahti (FI). **KOSUNEN, Veikko** [FI/FI]; Marjosärkantie 17, FIN-80130 Joensuu (FI).
(74) Agent: **KOLSTER OY AB**; Iso Roobertinkatu 23, P.O.Box 148, FIN-00121 Helsinki (FI).
(81) Designated States (*national*): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: **INHALATOR AND METHOD OF MANUFACTURING SAME**



WO 2003/095009 A1



(57) Abstract: An inhalator, an inhalator component and a method for manufacturing an inhalator component. The inhalator and inhalator component have at least one surface made of polymer material that comprises a coating layer (13). The coating layer (13) substantially reduces moisture penetration through said surface and lowers the specific electric resistance of said surface.

WO 2003/095009 A1



(84) **Designated States (regional):** ARIPO utility model (GH), ARIPO patent (GH), ARIPO utility model (GM), ARIPO patent (GM), ARIPO utility model (KE), ARIPO patent (KE), ARIPO utility model (LS), ARIPO patent (LS), ARIPO utility model (MW), ARIPO patent (MW), ARIPO utility model (MZ), ARIPO patent (MZ), ARIPO utility model (SD), ARIPO patent (SD), ARIPO utility model (SL), ARIPO patent (SL), ARIPO utility model (SZ), ARIPO patent (SZ), ARIPO utility model (TZ), ARIPO patent (TZ), ARIPO utility model (UG), ARIPO patent (UG), ARIPO utility model (ZM), ARIPO patent (ZM), ARIPO utility model (ZW), ARIPO patent (ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU,*

SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) **Date of publication of the revised international search report:** 24 June 2004

(15) Information about Correction:

see PCT Gazette No. 26/2004 of 24 June 2004, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 2003/000367

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A61M 15/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 0127210 A1 (INNOVATA BIOMED LIMITED), 19 April 2001 (19.04.2001), claims --	1-29
X	WO 9734653 A1 (ASTRA AKTIEBOLAG), 25 Sept 1997 (25.09.1997), abstract -- -----	1-29

☐ Further documents are listed in the continuation of Box C.
 ☒ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 11 July 2003	Date of mailing of the international search report 28 -04- 2004
Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Hélène Erikson/Els Telephone No. +46 8 782 25 00

CORRECTED

INTERNATIONAL SEARCH REPORT
Information on patent family members

31/03/2004

International application No.
PCT/FI 2003/000367

WO	0127210	A1	19/04/2001	AT	259868	T	15/03/2004
				AU	7675700	A	23/04/2001
				BR	0014595	A	11/06/2002
				CA	2385449	A	19/04/2001
				CZ	20021198	A	11/09/2002
				DE	60008425	D	00/00/0000
				EP	1240261	A,B	18/09/2002
				GB	9923959	D	00/00/0000
				HU	0203626	A	28/02/2003
				IL	149027	D	00/00/0000
				JP	2004500162	T	08/01/2004
				NO	20021681	A	03/06/2002
				NZ	517799	A	26/09/2003
				PL	354443	A	12/01/2004
				SK	4762002	A	08/10/2002
				ZA	200202433	A	22/07/2003
				GB	0017314	D	00/00/0000

WO	9734653	A1	25/09/1997	AU	701621	B	04/02/1999
				AU	709989	B	09/09/1999
				AU	2186697	A	10/10/1997
				AU	6943296	A	01/04/1997
				BR	9606646	A	30/09/1997
				BR	9708135	A	27/07/1999
				CA	2203833	A,C	20/03/1997
				CA	2248050	A	25/09/1997
				CN	1213975	A	14/04/1999
				CZ	9803007	A	13/01/1999
				EA	68	B	00/00/0000
				EE	9800462	A	15/06/1999
				EP	0792465	A	03/09/1997
				EP	0910422	A	28/04/1999
				ID	16289	A	00/00/0000
				IL	126069	D	00/00/0000
				JP	10509244	T	08/09/1998
				JP	2000507132	T	13/06/2000
				NO	972194	A	13/05/1997
				NO	984313	A	17/09/1998
				NZ	318112	A	26/02/1998
				NZ	331615	A	28/02/2000
				PL	181679	B	31/08/2001
				PL	320140	A	15/09/1997
				PL	328950	A	01/03/1999
				SE	9601126	D	00/00/0000
				SK	129298	A	11/02/1999
				TR	9801869	T	00/00/0000
				US	5933012	A	03/08/1999
				ZA	9702059	A	22/09/1997